REMARKS

Claims 1-24 and 44-49 are pending.

Claims 1 and 44 have been amended. Support for the amendments can be found throughout the specification, for example at [0047]. No new matter has been added.

Rejection under 35 U.S.C. § 112 – Claims 1-24 and 44-49

Claims 1-24 and 44-49 have been rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. The Examiner argues that the amendments filed March 30, 2009, introduced new matter to the claims as follows:

- Claims 1 and 44 and the claims that depend from them: "the volume of the chamber space being coextensive with the volume of the enclosed recess."
- Claim 47 and the claims that depend from it: "displacement distance"; "continuous wall"; "first thickness"; and "second thickness".
- Claim 49: "no fluid transfer into or out of the reaction volume is possible except when the second thickness is punctured by the cannula."

See Office Action at pages 2-3.

Not in acquiescence to the rejection but in an effort to expedite prosecution, Applicants have amended claims 1 and 44 to recite "the volume of the chamber space defined by the enclosed recess." Applicants respectfully request reconsideration and withdrawal of this rejection.

As to claims 47 and 49, Applicants respectfully disagree.

According to MPEP 2163 III A, a rejection for lack of written description requires more than what the Examiner has presented in the Office Action. Specifically, MPEP 2163 III A states:

> A description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. See, e.g., *In re Marzocchi*, 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971). The examiner, therefore, must have a reasonable basis to challenge the adequacy of the written description. The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. *Wertheim*, 541 F.2d at 263, 191 USPQ at 97. In rejecting a claim, the examiner must set forth express findings of fact regarding the above

> analysis which support the lack of written description conclusion. These findings should:
>
> (A) Identify the claim limitation at issue; and
>
> (B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. A general allegation of "unpredictability in the art" is not a sufficient reason to support a rejection for lack of adequate written description.
>
> When appropriate, suggest amendments to the claims which can be supported by the application's written description, being mindful of the prohibition against the addition of new matter in the claims or description. See *Rasmussen*, 650 F.2d at 1214, 211 USPQ at 326.

Here, the rejection consists of a list of claim limitations objected to, and a bare conclusory statement that a person skilled in the art would not have recognized that the inventor was in possession of the claimed subject matter at the time the application was filed. The Examiner has presented neither evidence nor reasoning as to why the identified subject matter is not properly described in the specification. The rejection, therefore, has not met "the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims." This alone is sufficient reason to reconsider and withdraw the rejection.

Nevertheless, in order to expedite prosecution, Applicants explain in detail how the specification provides a written description of the claim limitations identified by the Examiner.

With regard to the written description requirement, the MPEP provides

> ... the fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, applicant was in possession of the invention as now claimed. An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such **descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention.** *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). Possession may be shown in a variety of ways including description of an actual

> reduction to practice, or by showing that the invention was "ready for patenting" **such as by the disclosure of drawings** or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention. The subject matter of the claim **need not be described literally** (i.e., using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement.

MPEP 2163.02 (citations omitted) (emphasis added).

With regard to the term "continuous wall" in claim 47, reference may be made to Fig. 2, the legend at 30-31, and the text of the specification, e.g., at pages 12-13. The base element, the intermediate element and the lid element can be sealingly compressed. See paragraph [0059]. When sealingly compressed, the lid forms the top surface of the closed chamber, the base forms the bottom surface of the closed chamber and, as illustrated in Fig. 2, the intermediate element forms the barrier around the sides, or wall, of the chamber. Fig. 2 also visually depicts that the wall (300) is continuous. See Fig. 2. As demonstrated in Fig. 2, the sealing intermediate does not contain any breaks, interruptions, splits or fissures around the sides of the chamber, which makes the sealing intermediate continuous. Consequently, Applicants maintain that a "continuous wall" is disclosed in the specification.

A "first thickness" and a "displacement distance" are also disclosed in the specification. The first thickness is recited as being between the first and second sealing surfaces and the first thickness defines a displacement distance between the top element and the bottom element. The Examiner's assertion that a first thickness is not disclosed would mean that the intermediate element was illustrated as a two-dimensional, rather than three-dimensional, element in Figs. 2, 5 and 6. However, Fig. 2 clearly shows that the intermediate element is a three-dimensional object that has a first thickness, or height, as indicated by the hatched lines within the recess. See Fig. 2. The first thickness is also shown in Figs. 5 and 6, which also contain hatched lines indicating the intermediate element has a height. Drawings alone can be sufficient disclosure to satisfy the written description requirement. See *Vas-Cath v. Marhukar*, 935 F.2d 1555, 1565, 19 USPQ2d 1111, 1118, and MPEP 2163 II.A.3.

As to a "displacement distance," the specification discloses that the base element 400, the intermediate element 300 and the lid element 200 are placed on top of one another for fixation

and alignment of the core unit. See [0058]. Fig. 2 illustrates that the intermediate element is positioned on top of the base element, such that the first thickness is measured perpendicular to the base element. Fig. 2 also indicates that the lid element 200 is placed on top of the intermediate element 300, which is then placed on top of the base element 400. Because the core unit, as described, contains at minimum the solid lid element on top of the intermediate element on top of the solid base element, it is inherent that in some embodiments the distance the top element (the lid element) is displaced from the bottom element (base element), or the "displacement distance," is defined by the first thickness (height) of the intermediate element. Therefore, Applicants maintain that a "displacement distance" is disclosed in the specification.

A "second thickness" is also disclosed in the specification. The second thickness is recited as being perpendicular to the first thickness and defining (i) lateral external dimensions of the sealing intermediate element and (ii) a predetermined interior shape of, and interior dimensions of, the reaction volume. Again, the Examiner's assertion that a second thickness is not disclosed would mean that the intermediate element was illustrated as a two-dimensional, rather than three-dimensional, element in Figs. 2, 5 and 6. Nonetheless, Fig. 2 clearly shows that the intermediate element is a three-dimensional object that has a second thickness. Figs. 5 and 6 also demonstrate that the intermediate element is a three-dimensional element, having a dimension perpendicular to the first thickness. As stated above, drawings alone can be sufficient disclosure to satisfy the written description requirement. See *Vas-Cath v. Marhukar*, 935 F.2d 1555, 1565, 19 USPQ2d 1111, 1118, and MPEP 2163 II.A.3.

The specification discloses that the second thickness defines the lateral external dimensions of the sealing intermediate. The second thickness is perpendicular to the first thickness of the intermediate element, which indicates that the second thickness defines lateral dimensions. Referring to Fig. 2, the intermediate element is illustrated having lateral dimensions perpendicular to the first thickness because the continuous wall has a thickness enclosing the recess. It is inherent that the thickness of an object is measured from one external point on the object to an opposing external point. Therefore, the second thickness of the intermediate element, as shown in Fig. 2, defines the external dimensions of the intermediate element. Taken together, the second thickness of the continuous wall defines the lateral external dimensions of the sealing intermediate.

The specification also discloses that the second thickness defines a predetermined interior shape of, and interior dimensions of, the reaction volume. The specification describes that the "geometric shape of the reaction space is defined by the sealing septum 300." See [0051]. Furthermore, the reaction space is defined by the enclosed recess. See [0047]. The reaction space has a volume. See [0048]. The enclosed recess is defined by the lateral external dimensions of the wall. See Fig. 2. The lateral external dimensions of the intermediate element are defined by the second thickness. See above. Consequently, the second thickness defines the predetermined interior shape of, and interior dimensions of, the reaction volume. Applicants maintain that a "second thickness" is disclosed in the specification.

Because the written description requirement is satisfied in claim 47, Applicants respectfully ask that the rejection under 112, first paragraph, be reconsidered and withdrawn.

The limitation that "no fluid transfer into or out of the reaction volume is possible except when the second thickness is punctured by the cannula" in claim 49 is also described in the specification. For example, at page 12, the specification discloses that "the intermediate element is elastic and repeatedly puncturable with cannulae, wherein the cannuale are extractable and after the extraction of the cannulae a leakage of liquid from the intermediate element does not occur." (emphasis added). Additionally, the specification describes that "[a]fter filling, the needles are extracted so that the insertion holes in the elastic sealing septum 300 close up and the sample remains pressure-tight and hermetically sealing in the reaction chamber 500. The entire fluid sample is situated in the reaction space 301 and not in feeding or exit channels – which is the reason why cartridge 1 works free of dead volume." See [0062]. Fig. 5 demonstrates that the cannula punctures the second thickness to enter into the reaction space. See Fig. 5.

Because the written description requirement is satisfied in claim 49, Applicants respectfully ask that the rejection under 112, first paragraph, be reconsidered and withdrawn.

Rejection under 35 U.S.C. § 103(a) – Claims 1-24 and 44-49

The Examiner has rejected claims 1-24 and 44-49 under 35 U.S.C. § 103(a) as being unpatentable over Blackburn, *et al.*, U.S Patent Application No. 2006/0160205 A1 ("Blackburn"); in view of Ehricht, *et al.*, U.S. Patent Application No. 2002/0150933 ("the

Ehricht reference"); Lipshutz, *et al.*, U.S. Patent No. 5,856,174 ("Lipshutz"); and Paul, *et al.*, U.S. Patent Application No. 2003/0091477 A1 ("Paul"). Claims 1, 44 and 47 are independent claims. Claims 2-24 and 46 depend from claim 1. Claim 45 depends from claim 44. Claims 48 and 49 depend from claim 47.

Claim 1 relates to a device for holding a substance library carrier. The device includes two holding elements that are fixable with each other, and that hold a layer composite that includes: (i) a solid lid element having a detection surface with a substance library on its underneath side and being optically translucent at least in an area of the detection surface, (ii) a sealing intermediate element having an enclosed recess; and (iii) a solid base element being optically translucent at least in an area of the detection surface of the lid element. The lid element, the intermediate element and the base element are held together between the two fixed holding elements to form a closed optically translucent chamber having a chamber space. The volume of the chamber space being defined by the enclosed recess. See claim 1.

Claim 44 relates to a first device for filling a second device for holding a substance library carrier. The second device includes two holding elements that are fixable with each other, and that hold a layer composite as described above. See claim 44.

Claim 47 relates to a device for holding a substance library carrier, comprising two holding elements that are fixable with each other and that hold a replaceable layer composite defining a reaction volume. The layer composite includes a solid top element having an optically translucent region with an array immobilized on a reaction-volume-facing surface of the optically translucent region, a solid bottom element opposed to the top element, and having an optically translucent region, and a sealing intermediate element. The sealing intermediate element includes a first sealing surface arranged to form a liquid-tight seal when pressed against the reaction-volume-facing surface of the top element, a second sealing surface arranged to form a liquid-tight seal when pressed against a reaction-volume-facing surface of the bottom element, and a continuous wall; the continuous wall has a first thickness between the first and second sealing surfaces, the first thickness defining a displacement distance between the top element and the bottom element, and a second thickness, perpendicular to the first thickness, the second

thickness defining (i) lateral external dimensions of the sealing intermediate element and (ii) a predetermined interior shape of, and interior dimensions of, the reaction volume. See claim 47.

Ehricht

It is well established that "one's own work is not prior art under [35 U.S.C.] § 102(a) even though it has been disclosed to the public in a manner or form which would otherwise fall under 102(a)." In re Katz, 215 USPQ 14, 17 (CCPA 1982); MPEP 2132.01. Similarly, Applicants' own work is not prior art under 35 U.S.C. § 102(e). See In re DeBaun, 214 USPQ 933 (CCPA 1982) (citing In re Katz and stating that applicant's own work may not be used against him or her unless there is a time bar under 35 U.S.C. § 102(b)); MPEP 2136.05.

The inventors of the subject matter of claims 1-24 and 44-49 are Torsten Schulz, Eugen Ermantraut, Thomas Ullrich, Thomas Ellinger, Joachim Fischer, Thomas Kaiser, Klaus-Peter Möbius, Siegfried Poser, Jens Tuchscherer and Martin Zieren. The inventors identified on the face of the Ehricht reference are Ralf Ehricht, Thomas Ellinger, Jens Tuchsherer, Eugen Ermantraut, Siegfried Poser and Torsten Schulz. The Ehricht reference describes a portion of the Applicants' own work and, therefore, is not citable against this application. The actual contributions of Ralf Ehricht, Thomas Ellinger, Jens Tuchsherer, Eugen Ermantraut, Siegfried Poser and Torsten Schulz and of the Applicants are clarified in a Declaration under 37 C.F.R. § 1.132 of Eugen Ermantraut submitted herewith ("the Ermantraut declaration," attached at Appendix A). Eugen Ermantraut states that "Ehricht was not involved with any discovery or development of the concepts relating to the device for holding a substance library carrier." See paragraph three of the Ermantraut declaration. Any disclosure in the Ehricht reference relevant to the claims in the present application and relating to the device for holding a substance library carrier is the work of Torsten Schulz, Eugen Ermantraut, Thomas Ullrich, Thomas Ellinger, Joachim Fischer, Thomas Kaiser, Klaus-Peter Möbius, Siegfried Poser, Jen Tuchscheerer and Martin Zieren. Thus, Ehricht does not qualify as prior art under 35 U.S.C. § 102 and cannot be used to support a rejection under 35 U.S.C. § 103(a).

Blackburn

Blackburn discloses devices that allow for simultaneous multichip biochip analysis. See Blackburn Abstract. The Examiner states that Blackburn does not explicitly teach: 1) a lid with a substance library on its underneath side; 2) a lid and base element being optically translucent at least in an area of the detection surface; or 3) two fixed holding elements holding the lid element, intermediate element, and the base element. See Office Action, page 6. Applicants agree.

Blackburn also does not teach a solid top element having an optically translucent region with an array immobilized on a reaction-volume-facing surface of the optically translucent region. In fact, Blackburn does not disclose a the location of the array with relation to a top element.

Furthermore, Blackburn does not disclose the volume of the chamber space being defined by the enclosed recess. Instead, Blackburn describes the reaction chamber as follows:

> "Generally, the reaction chamber comprises a space or volume that allows the contacting of the sample to the biochip array. The volume of the reaction chamber can vary depending on the size of the array and the assay being done. In general, the reaction chamber ranges from 1 nL to 1 mL, with from about 1 to about 250 μL being preferred and from about 10 to about 100 μL being especially preferred. In some of the embodiments, to avoid the introduction of air bubbles into the reaction chamber (which can be disruptive to detection), the reaction chamber is less than the size of the sample to be introduced, to allow a slight overflow and thus ensure that the reaction chamber contains little or no air."

See [0082]. Therefore, Blackburn teaches that the reaction chamber volume can depend on the size of the array, the assay being done or the size of the sample to be introduced. Blackburn does not teach or suggest the volume of the chamber space being defined by the enclosed recess.

Blackburn does not disclose a second thickness, perpendicular to the first thickness, the second thickness defining a predetermined interior shape of, and interior dimensions of, the reaction volume. Therefore, Blackburn teaches that the reaction chamber volume can depend on the size of the array, the assay being done or the size of the sample to be introduced. Blackburn does not teach or suggest the second thickness defining a predetermined interior shape of, and interior dimensions of, the reaction volume.

In sum, Blackburn does not teach or suggest a device for holding a substance library carrier including a solid lid element having a detection surface with a substance library on its underneath side and being optically translucent at least in an area of the detection surface, a sealing intermediate element having an enclosed recess; and a solid base element being optically translucent at least in an area of the detection surface of the lid element, wherein the lid element, the intermediate element and the base element are held together between the two fixed holding elements to form a closed optically translucent chamber having a chamber space, the volume of the chamber space being defined by the enclosed recess. Blackburn does not teach or suggest a device for holding a substance library carrier, comprising two holding elements that are fixable with each other and that hold a replaceable layer composite defining a reaction volume. The layer composite includes a solid top element having an optically translucent region with an array immobilized on a reaction-volume-facing surface of the optically translucent region, a solid bottom element opposed to the top element, and having an optically translucent region, and a sealing intermediate element. The sealing intermediate element includes a first sealing surface arranged to form a liquid-tight seal when pressed against the reaction-volume-facing surface of the top element, a second sealing surface arranged to form a liquid-tight seal when pressed against a reaction-volume-facing surface of the bottom element, and a continuous wall; the continuous wall has a first thickness between the first and second sealing surfaces, the first thickness defining a displacement distance between the top element and the bottom element, and a second thickness, perpendicular to the first thickness, the second thickness defining (i) lateral external dimensions of the sealing intermediate element and (ii) a predetermined interior shape of, and interior dimensions of, the reaction volume.

Lipshutz

The defects in Blackburn are not remedied by Lipshutz. Lipshutz teaches a diagnostic device capable of performing one or more sample acquisition and preparation operations, in combination with one or more sample analysis operations. See Lipshutz Abstract.

Lipshutz does not teach a lid with a substance library on its underneath side. The Examiner states that Lipshutz teaches a lid with a substance library on its underneath side in

column 19, lines 20-29. Instead, Lipshutz teaches an analytical chamber that includes an oligonucleotide array "as the bottom surface of the chamber." See column 19, lines 20-29. Because the lid forms the upper surface of the chamber, Lipshutz does not teach or suggest a lid with a substance library on its underneath side. Additionally, Lipshutz does not teach or suggest a solid top element having an optically translucent region with an array immobilized on a reaction-volume-facing surface of the optically translucent region.

Lipshutz also does not teach the lid element, the intermediate element and the base element are held together between two fixed holding elements. The Examiner states that Lipshutz teaches "the base unit may include a second surface which contacts the opposite surface of the device from the first surface, or one surface is "fixable" with a second surface." See Office Action at pages 8-9.

First, Lipshutz does not disclose a sealing intermediate element having an enclosed recess, the volume of the chamber space being defined by the enclosed recess. The Examiner has asserted that Lipshutz teaches a sealing intermediate element. See Office Action at page 8. Lipshutz discloses that "the chamber may include an opening to the outside of the device adapted for receipt of the sample. The opening will typically incorporate a sealable closure to prevent leakage of the sample, e.g. a valve, check-valve, or septum, through which the sample is introduced or injected." See column 18, lines 10-13. Therefore, Lipshutz discloses a sealable opening in one of the two members, and not a sealable intermediate element with an enclosed recess. This interpretation is supported by the illustration of the sealable opening 108 and diaphragm valve 114 in Fig. 2B, which shows an opening 108 in the second part 124 sealed by the valve 114 rather than a sealing intermediate element having an enclosed recess. Even if the sealable closure provides a "recess" (which Applicants do not concede), Lipshutz states that the "second part 124, typically planar in structure, is mated to the polymeric part to define a closure for the reaction chamber." See column 16, lines 12-14; see also column 15, line 48 to col. 16, line 2. Therefore, Lipshutz does not teach or suggest a sealing intermediate having an enclosed recess, the volume of the chamber space being defined by the enclosed recess. Similarly, Lipshutz also does not teach a second thickness defining a predetermined interior shape of, and interior dimensions of, the reaction volume.

Second, Lipshutz does not teach two fixed holding elements. Lipshutz teaches that "the base unit may include a second surface which contacts the opposite surface of the device from the first surface, to apply heating on one exterior surface of the reaction chamber and mixing at the other. See column 27, lines 1-3. Consequently, Lipshutz teaches that one base unit contacts two surfaces for the purposes of heating or mixing, and not two fixed holding elements. Additionally, the Examiner states that "one surface is "fixable" with a second surface." See Office Action at pages 8-9. It is unclear what "one surface" the Examiner is referencing. Nevertheless, the Examiner is adding to what Lipshutz actually discloses. Lipshutz only discloses that a second surface contacts the opposite surface and does not teach fixed or fixable elements. Therefore, Lipshutz does not teach or suggest two fixed holding elements.

Third, Lipshutz does not teach two fixed holding elements holding a lid element, an intermediate element and a base element. Lipshutz teaches that the chamber is formed by two members. Lipshutz states that "[t]he reaction chamber includes a machined or injected molded polymeric part 102 which has a well 104 manufactured, i.e., machined or molded, into its surface." See column 16, lines 5-8. Lipshutz further describes that "[a] second part 124, typically planar in structure, is mated to the polymeric part to define a closure for the reaction chamber." See column 16, lines 19-21. Also, as discussed above, Lipshutz does not teach an intermediate element. As a result, Lipshutz does not teach or suggest that the lid element, the intermediate element and the base element are held together between two fixed holding elements.

Paul

The defects in Blackburn are also not remedied by Paul. Paul describes a system for hybridization assays that includes a cartridge for housing an array device. Paul relates to a chip holder and a cartridge for the chip holder, which are particularly adapted for a flow-thru chip (FTC). See paragraphs [0011]-[0016].

Paul does not teach a lid with a substance library on its underneath side. Instead, Paul discloses an FTC between seals. See Fig. 3 and paragraph [0065]. An FTC contains arrays of binding reagents. See paragraph [0004]. Therefore, Paul does not teach or suggest a lid with a substance library on it underneath side or a solid top element having an optically translucent

region with an array immobilized on a reaction-volume-facing surface of the optically translucent region.

Paul does not teach a device having a solid lid element, a sealing intermediate, and a solid base element, where the lid element, the intermediate element and the base element are held together between two fixed holding elements to form a closed chamber having a chamber space. In contrast, the nature of an FTC requires a fluid inlet and outlet so as to permit flow through the chip. In other words, the chamber in the device discussed by Paul is necessarily not a closed chamber.

The Examiner has not directly addressed the content of Paul with regard to a sealing intermediate element. Nevertheless, Paul explains that

> . . . upper seal(s) 333, 334, [ ] can be a single seal, as shown in FIG. 6B. The single upper seal 335 further includes a hole 336 and a slot or channel 337. The location of hole 336 corresponds to the location of the exit hole 429 (FIG. 4D), which directs test (or process) fluid that has passed through the FTC to the exit guide hole 409 and out of the FTC cartridge.

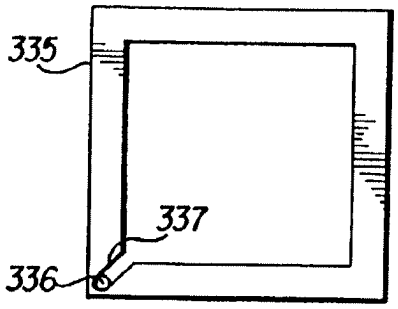

FIG. 6B

See paragraphs [0083]-[0084] and FIG. 6B. The above passage and figure clearly contemplate a flow through device. The slot, channel and exit hole are inconsistent with a sealing intermediate element having an enclosed recess. Paul's flow through device, rather than enclosing a fluid, permits flow.

Additionally, Paul does not teach the volume of the chamber space being defined by the volume of the enclosed recess. Rather, Paul discloses that "[t]he test fluid chamber 461 is defined, in part, by the flow surface 421 and the bottom side or bottom surface of the FTC 330."

Therefore, Paul does not teach or suggest the volume of the chamber space being defined by the volume of the enclosed recess. Paul also does not teach or suggest a second thickness defining a predetermined interior shape of, and interior dimensions of, the reaction volume.

Combination

Because the chip holder is used with an FTC, it includes a port for passing test fluid into the test fluid chamber. The holding device of Paul is intended for use with a FTC, where the array is immobilized inside the channels of the FTC. Nowhere does Paul teach, suggest, or motivate using the holding device with a "flat surface" array. Paul contrasts FTC devices with "flat surface" substrates. See paragraph [0003]. According to Paul, other FTC holders are associated with difficulties such as leaking and insufficient flow control. See paragraphs [0007]-[0008]. Paul then explains why "conventional gene chip array holders (or cartridges). . . operate[] with a non-flow-through substrate. . . . Therefore, this type of conventional design is inadequate to address fluid flow and leakage issues." See paragraphs [0009]-[0010]. Paul thus actively discourages the combination the FTC devices with non-flow-through devices. Blackburn and Lipshutz are concerned with devices that operate with a non-flow-through substrate. Thus, Paul teaches away from combination with the teachings of Blackburn and Lipshutz. Combining references is improper where the references teach away from their combination. See, e.g., MPEP 2145 X.D and 2141.02. For at least this reason, the instant claims are nonobvious over Blackburn, Lipshutz and Paul.

Additionally, nothing in the references provides a teaching, suggestion or motivation to supply the missing elements, nor does common sense or skill in the art supply what the references lack. Here, the references, when considered together, do not teach, suggest, or motivate a person having ordinary skill in the art to make a device for holding a substance library carrier. The device includes two holding elements that are fixable with each other, and that hold a layer composite that includes: (i) a solid lid element having a detection surface with a substance library on its underneath side and being optically translucent at least in an area of the detection surface, (ii) a sealing intermediate element having an enclosed recess; and (iii) a solid base element being optically translucent at least in an area of the detection surface of the lid element. The lid element, the intermediate element and the base element are held together

between the two fixed holding elements to form a closed optically translucent chamber having a chamber space. The volume of the chamber space being defined by the enclosed recess. The references, when considered together, also do not teach, suggest, or motivate a person having ordinary skill in the art to make a device for holding a substance library carrier, comprising two holding elements that are fixable with each other and that hold a replaceable layer composite defining a reaction volume. The layer composite includes a solid top element having an optically translucent region with an array immobilized on a reaction-volume-facing surface of the optically translucent region, a solid bottom element opposed to the top element, and having an optically translucent region, and a sealing intermediate element. The sealing intermediate element includes a first sealing surface arranged to form a liquid-tight seal when pressed against the reaction-volume-facing surface of the top element, a second sealing surface arranged to form a liquid-tight seal when pressed against a reaction-volume-facing surface of the bottom element, and a continuous wall; the continuous wall has a first thickness between the first and second sealing surfaces, the first thickness defining a displacement distance between the top element and the bottom element, and a second thickness, perpendicular to the first thickness, the second thickness defining (i) lateral external dimensions of the sealing intermediate element and (ii) a predetermined interior shape of, and interior dimensions of, the reaction volume.

Even if the art of record taught all of the features detailed in claims 1, 44 and 47 (which Applicants do not concede), there is no motivation to combine those features to arrive at the claimed devices. For example, Lipshutz teaches a septum as seals for inlet ports. Even if the septum is considered to have an enclosed recess, Lipshutz does not teach or suggest a configuration where the volume of a closed chamber space is defined by the enclosed recess. Paul teaches a device that includes a sealing element positioned between a flow through cell and a window. It does not teach a closed chamber space; nor a closed chamber space that has a volume defined by the enclosed recess; nor that a lid, an intermediate element and a base element are held together to form a closed chamber. Even if the references teach the parts that appear in claims 1, 44 and 47, there is no teaching, suggestion, or motivation to combine those parts in the manner (e.g., the structural relationships among the parts) described in claims 1, 44 and 47.

Furthermore, Paul explicitly teaches away from devices like those discussed in Blackburn and Paul, and therefore may not be properly combined with those references.

The Supreme Court has explained that to facilitate review of a determination of obviousness, the analysis of "interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art. . . should be made explicit." *KSR International Co. v. Teleflex Inc.* 550 U.S. 398 (2007) (citing *In re Kahn*, 441 F. 3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")).

Here, the Examiner has failed to provide any reasoning behind the combination of Blackburn, Lipshutz and Paul. For, example, there is no explanation of how the teachings of the references are "interrelated," only a list of features allegedly taught by each reference. There is no reason to combine the various teachings in a way that would lead a person of ordinary skill to the devices of claims 1, 44, 47 or the claims that depend from them.

In short, the Examiner has failed to make a *prima facie* case of obviousness. Applicants therefore respectfully ask that the rejection under § 103 be reconsidered and withdrawn.

CONCLUSION

Applicants ask that all claims be allowed. Please apply any charges or credits to deposit account 19-4293.

Respectfully submitted,

Date: 5-21-10

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